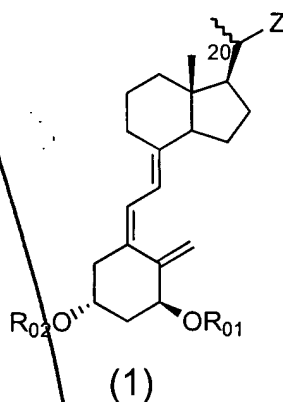


**IN THE CLAIMS:**

**Please cancel claims 1-44**

**Please enter new claims 45-61:**

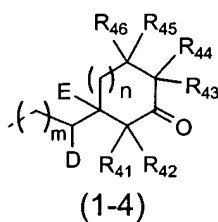
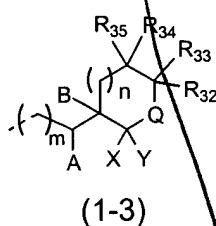
45. A vitamin D<sub>3</sub> derivative expressed by the following general formula (1) or pharmaceutically permissible solvates thereof,



{wherein, R<sub>01</sub> and R<sub>02</sub> are each independently a hydrogen atom, a trimethylsilyl group, a triethylsilyl group, a t-butyldimethylsilyl group, an acetyl group, a methoxymethyl group or a tetrahydro-4H-pyran-2-yl group;

Z is one out of the following formulae (1-3) and (1-4),

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[in the above formulae (1-3) and (1-4),

m is an integer of 0 to 2;

n is an integer of 0 to 2;

R<sub>32</sub>, R<sub>33</sub>, R<sub>34</sub> and R<sub>35</sub> are identical to or different from each other, and they are a hydrogen atom, a hydroxyl group, a C<sub>1</sub>-C<sub>4</sub> alkyl group or a C<sub>2</sub>-C<sub>5</sub> acyloxy group;

A and B are identical to or different from each other, and they express a hydrogen atom or a hydroxyl group, or together express a single bond and form a double bond in cooperation with the single bond already shown in the formula;

X and Y together express a carbonyl group in cooperation with the carbon atom to which they are bonded, one of them is a hydrogen atom and the other is a hydroxyl group, or one of them is a hydrogen atom and the other is a C<sub>2</sub>-C<sub>5</sub> acyloxy group;

R<sub>41</sub> and R<sub>42</sub> are identical to or different from each other, and they express a hydrogen atom, a hydroxyl group, a trifluoromethyl group, a pentafluoroethyl group, a C<sub>2</sub>-C<sub>5</sub> acyloxy group, a C<sub>1</sub>-C<sub>4</sub> alkyloxy group or a C<sub>1</sub>-C<sub>4</sub> alkyl group which may be substituted with a hydroxyl group, a C<sub>2</sub>-C<sub>5</sub> acyloxy group or a C<sub>1</sub>-C<sub>4</sub> alkyloxy group, or both the members together express a C<sub>1</sub>-C<sub>5</sub> alkylidene group, or they express a C<sub>3</sub>-C<sub>6</sub> cyclic alkyl group in cooperation with the carbon atom to which they are bonded;

Sub 31  
R<sub>43</sub> and R<sub>44</sub> are identical to or different from each other, and they express a hydrogen atom, a hydroxyl group, a trifluoromethyl group, a pentafluoroethyl group, a C<sub>2</sub>-C<sub>5</sub> acyloxy group, a C<sub>1</sub>-C<sub>4</sub> alkyloxy group or a C<sub>1</sub>-C<sub>4</sub> alkyl group which may be substituted with a hydroxyl group, a C<sub>2</sub>-C<sub>5</sub> acyloxy group or a C<sub>1</sub>-C<sub>4</sub> alkyloxy group, or both the members together express a C<sub>1</sub>-C<sub>5</sub> alkylidene group, or express a C<sub>3</sub>-C<sub>6</sub> cyclic alkyl group in cooperation with the carbon atom to which they are bonded;

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R<sub>45</sub> and R<sub>46</sub> are identical to or different from each other, and they express a hydrogen atom, a hydroxyl group, a trifluoromethyl group, a pentafluoroethyl group, a C<sub>2</sub>-C<sub>5</sub> acyloxy group, a C<sub>1</sub>-C<sub>4</sub> alkyloxy group or a C<sub>1</sub>-C<sub>4</sub> alkyl group which may be substituted with a hydroxyl group, a C<sub>2</sub>-C<sub>5</sub> acyloxy group or a C<sub>1</sub>-C<sub>4</sub> alkyloxy group;

D and E express each a hydrogen atom, D is a hydroxy group and E expresses a hydrogen atom, D and E together express a single bond and express a double bond in cooperation with the single bond already shown in the formula, or E and R<sub>41</sub> together express a single bond and express a double bond in cooperation with the single bond already shown in the formula, wherein D expresses a hydrogen atom or a hydroxy group; and R<sub>42</sub> expresses a hydrogen atom, a hydroxyl group, a trifluoromethyl group, a pentafluoroethyl group, a C<sub>2</sub>-C<sub>5</sub> acyloxy group, a C<sub>1</sub>-C<sub>4</sub> alkyloxy group or a C<sub>1</sub>-C<sub>4</sub> alkyl group which may be substituted with a hydroxyl group, a C<sub>2</sub>-C<sub>5</sub> acyloxy group or a C<sub>1</sub>-C<sub>4</sub> alkyloxy group,]

with the proviso that the following compound (a) is excluded,

Sub B1  
(a) a compound in which the groups of one combination out of  $R_{32}$  and  $R_{33}$ ,  $R_{34}$  and  $R_{35}$ ,  $R_{41}$  and  $R_{42}$ ,  $R_{43}$  and  $R_{44}$ , and  $R_{45}$  and  $R_{46}$  are both hydroxy groups, both alkyloxy groups, or a hydroxy group and an alkyloxy group.}}

46. A vitamin  $D_3$  derivative or a pharmaceutically permissible solvate thereof described in Claim 45, wherein, in the above formula (1), Z is (1-3)

47. A vitamin  $D_3$  derivative or a pharmaceutically permissible solvate thereof described in Claim 45, wherein, in the above formula (1), Z is (1-4).

48. A vitamin  $D_3$  derivative or a pharmaceutically permissible solvate thereof described in one out of Claims 45, 46 and 47, wherein, in the above formula (1),  $R_{01}$  and  $R_{02}$  are both hydrogen atoms.

49. A vitamin  $D_3$  derivative or a pharmaceutically permissible solvate thereof described in one out of Claims 45, 46 and 47, wherein, in the above formula (1), m is 0 or 1.

50. A vitamin  $D_3$  derivative or a pharmaceutically permissible solvate thereof described in one out of Claims 45, 46 and 47, wherein, in the above formula (1), n is 0 or 1.

51. A vitamin  $D_3$  derivative or a pharmaceutically permissible solvate thereof described in Claim 46, wherein, in the above formula (1), Q is  $>C(-F)-R_{31}$ .

52. A vitamin  $D_3$  derivative or a pharmaceutically permissible solvate thereof described in Claim 46, wherein, in the above formula (1), Q is  $>N-R_{31}$ .

53. A vitamin  $D_3$  derivative or a pharmaceutically permissible solvate thereof described in Claim 46, wherein, in the above formula (1),  $R_{31}$  is a hydrogen atom, a hydroxyl

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group or a C<sub>1</sub>-C<sub>4</sub> alkyl group which may be substituted with a hydroxy group, a C<sub>2</sub>-C<sub>5</sub> acyloxy group or a C<sub>1</sub>-C<sub>4</sub> alkyloxy group.

54. A vitamin D<sub>3</sub> derivative or a pharmaceutically permissible solvate thereof described in Claim 46, wherein, in the above formula (1), R<sub>32</sub>, R<sub>33</sub>, R<sub>34</sub> and R<sub>35</sub> are each a hydrogen atom.

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55. A vitamin D<sub>3</sub> derivative or a pharmaceutically permissible solvate thereof described in Claim 46, wherein, in the above formula (1), A and B are both hydrogen atoms, A is a hydroxyl group and B is a hydrogen atom, or A and B together express a single bond and form a double bond in cooperation with the single bond already shown in the formula.

56. A vitamin D<sub>3</sub> derivative or a pharmaceutically permissible solvate thereof described in Claim 46, wherein, in the above formula (1), X and Y together express a carbonyl group in cooperation with the carbon atom to which they are bonded.

57. A vitamin D<sub>3</sub> derivative or a pharmaceutically permissible solvate thereof described in Claim 47, wherein, in the above formula (1), R<sub>41</sub> and R<sub>42</sub> are both hydrogen atoms or together express a methylene group.

58. A vitamin D<sub>3</sub> derivative or a pharmaceutically permissible solvate thereof described in Claim 47, wherein, in the above formula (1), R<sub>43</sub> and R<sub>44</sub> are both hydrogen atoms or together express a methylene group.

59. A vitamin D<sub>3</sub> derivative or a pharmaceutically permissible solvate thereof described in Claim 47, wherein, in the above formula (1), R<sub>45</sub> and R<sub>46</sub> are both hydrogen atoms.

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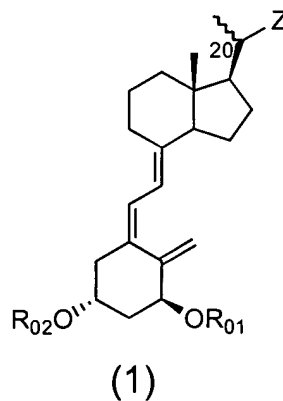
60. A vitamin D<sub>3</sub> derivative or a pharmaceutically permissible solvate thereof described in Claim 47, wherein, in the above formula (1), D and E are both hydrogen atoms, D and E together express a single bond and form a double bond in cooperation with the single bond already shown in the formula, or D is a hydrogen atom and E and R<sub>41</sub> together express a single bond and express a double bond in cooperation with the single bond already shown in the formula.

61. A pharmaceutical composition composed of a vitamin D<sub>3</sub> derivative or pharmaceutically permissible solvate thereof described in claim 45 and a pharmaceutically permissible carrier.

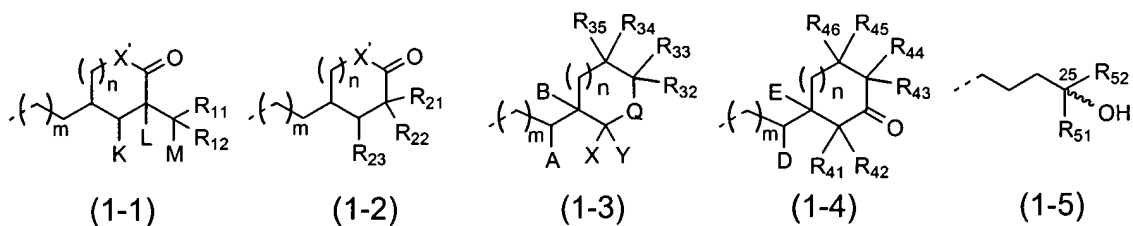
**IN THE ABSTRACT OF DISCLOSURE:**

Please delete the present Abstract of the Disclosure and replace it with the following new Abstract of the Disclosure:

Compounds expressed by the following general formula (1),



[wherein,  $R_{01}$  and  $R_{02}$  are each independently a hydrogen atom or a protecting group for a hydroxyl group; Z is one out of the following formulae (1-1) to (1-5)].



The compounds can be used as active ingredients of treating agents for inflammatory respiratory diseases, malignant tumors, rheumatoid arthritis, osteoporosis, diabetes mellitus, hypertension, alopecia, acne, psoriasis, dermatitis, hypercalcemia, hypoparathyroidism and metabolic disorder of cartilage.